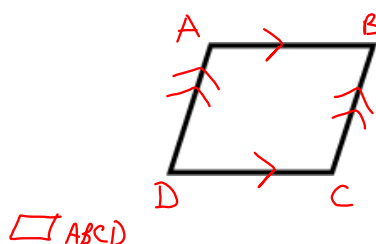


8-2 Parallelograms

Parallelogram-quadrilateral with both pairs of opposite sides parallel



Theorem 8.3-Opposite sides of a parallelogram are congruent.

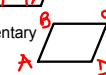


Theorem 8.4-Opposite angles of a parallelogram are congruent.



Theorem 8.5-Consecutive angles of a parallelogram are supplementary.

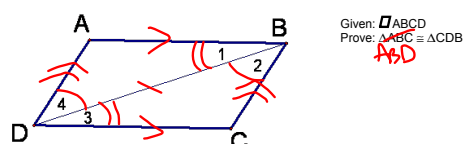
$$m\angle A + m\angle B = 180$$



Theorem 8.6-If a parallelogram has one right angle, then it has four right angles.



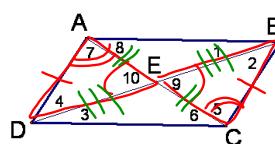
Theorem 8.7-Diagonals of a parallelogram bisect each other.



Given: $\square ABCD$
Prove: $\triangle ABC \cong \triangle CDB$

$\overline{AB} \cong \overline{CD}$

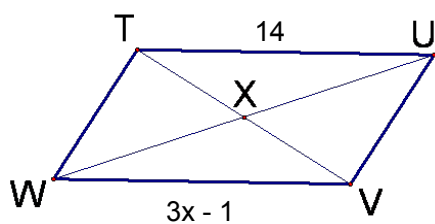
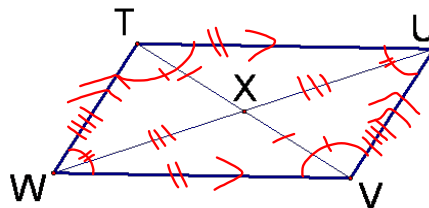
St.	Reasons
① $\square ABCD$	① Given
② $\overline{AB} \parallel \overline{DC}$ $\overline{AD} \parallel \overline{BC}$	② def of \square
③ $\angle 4 \cong \angle 2$ $\angle 3 \cong \angle 1$	③ If \parallel , alt int \angle s \cong
④ $\overline{AB} \cong \overline{CD}$	④ Reflexive
⑤ $\triangle ABC \cong \triangle CDB$	⑤ ASA



Given: $\square ABCD$
Prove: $\triangle AED \cong \triangle CEB$

St.	Reasons
① $\square ABCD$	① Given
② $\angle 10 \cong \angle 9$	② Vert. \angle s \cong
③ $\overline{AD} \cong \overline{BC}$	③ Opp sides of \square are \cong
④ $\overline{AD} \parallel \overline{BC}$	④ def of \square
⑤ $\angle 7 \cong \angle 5$	⑤ If \parallel , alt. int \angle s \cong
⑥ $\triangle AED \cong \triangle CEB$	⑥ AAS

Theorem 8.8-Each diagonal of a parallelogram separates it into two congruent triangles



$$\begin{aligned} TX &= 8 \\ XV &= .5y \end{aligned}$$

HW
p. 414-415
7-12, 16-31